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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)	
)	
Stephen J. MEYER et al.)	Confirmation No.: 9428
)	
Application No.: 09/196,680)	Group Art Unit: 3752
)	
Filed: November 20, 1998)	Examiner: C. Kim
)	
For: ORDINARY HAZARD EXTENDED)	
COVERAGE SIDEWALL SPRINKLERS)	
AND SYSTEMS)	

Commissioner for Patents
U.S. Patent and Trademark Office
2011 South Clark Place
Customer Window, Mail Stop Non-Fee Amendment
Crystal Plaza Two, Lobby, Room 1B03
Arlington, VA 22202

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DECLARATION OF MICHAEL A. FISCHER

I, Michael A. Fischer, declare the following:

1. I have over twenty-five years of experience in the fire protection field.
2. I have designed fire sprinkler in sidewall applications.
3. I have designed and supervised construction, as well as manned and operated a full scale mobile Fire Test Demonstration Unit for the Centennial NFPA Convention, Boston, 1996.
4. Currently, I am the Chief Test Engineer at Tyco Fire Products Research and Development Center. My principal responsibilities include design, research, construction, and testing of fire protection products.

5. Over the span of twenty-five years in the fire protection field, particularly nozzles and sprinklers, I was granted twelve United States Patents, including U.S. Patent Nos. 6,726,119; 6,059,044; 5,862,994; 5,505,383; 5,392,993; 5,152,344; 4,945,948; 4,893,679; 4,405,018; 4,296,816; 4,279,309; and 4,273,195. A copy of these U.S. Patents is attached as Exhibit A.
6. I was endowed with many awards for my contribution to the fire protection field, including a U.S. Presidential Commendation as "An outstanding example of private industry providing the necessary skills to solve a critical national problem" and the 1986 Powder Metallurgy Part-of-the-Year award for Nonferrous Metals.
7. My designs have been chosen by the United States Fire Administration and the National Institute of Standards and Technology as the only viable option in their class. Other designs have received widespread media attention including The New York Times, trade-related publications, Popular Science and featured as covers of the "NFPA Catalog of Codes and Standards."
8. I have fostered new National Fire Protection Association codes, and Underwriters Laboratories, Inc. Standards.
9. My current Low Pressure Mist System designs are the first to be fully compliant to the new International Maritime Organization Resolution 8000.2, which is acknowledged as one of the most complex Fire Protection Standards in existence today.

10. I have reviewed the instant application for a sidewall sprinkler, as described in U.S. Patent Application S.N. 09/196,680 ("the instant application"). A copy of the instant application is attached as Exhibit B.
11. I have also reviewed the currently pending claims of the instant application. A copy is attached as Exhibit C.
12. I have also reviewed the Office Action dated April 06, 2004, as issued from the United States Patent and Trademark. A copy of this Office Action is attached as Exhibit D.
13. I understand that the Office Action relies upon U.S. Patent No. 4,296,816 (hereafter "the Fischer Patent") and U.S. Patent No. 5,810,263 (hereafter "the Tramm Patent") to conclude that the currently pending claims of the instant application are unpatentable.
14. I am the sole inventor of the invention disclosed and claimed in the Fischer Patent. A copy of the Fischer Patent is attached as Exhibit E.
15. The Fischer Patent shows and describes a deflector that has an arcuate shaped portion designed as a fluid lifting channel, which perimeter defines a parabola with a vertex closer to the outlet. This flow lifting portion or channel is identified as 90 in Figures 2-4, 6, and 7 of the Fischer Patent. The channel 90 is intended to allow a central portion of the water spray being deflected by deflector 38 to remain attached to the underside of the deflector by the "Coanda effect" generated by the compound curved channel 90 of the patented sidewall sprinkler (hereafter "the Coanda-effect sprinkler"). As such, the Coanda-effect sprinkler of the Fischer Patent was able to lift the flow of fire-retardant fluid upward above the

remainder of the fluid stream and throw this upward stream further forward over onto the protection area. *See* the Fischer Patent at col. 4:24-32.

16. The Fischer Patent fails to show or describe the K-factor of the Coanda-effect sprinkler. The Fischer Patent also fails to show or describe any specific water density in gallons per minute per square feet to be provided over a protection area by the Coanda-effect sprinkler.
17. The Fischer Patent fails to state that the Coanda-effect sidewall sprinkler could provide, as claimed in the instant application, an average density of about 0.15 gallons per minute per square feet over a collection area located at either one of a distance of about thirty-six inches and a distance of approximately six feet and 7.5 inches below such fire sprinklers when the Coanda-effect sprinkler is paired with an identical Coanda-effect sprinkler mounted approximately sixteen feet apart on a generally planar wall surface with a collection area of approximately sixteen feet between the sprinklers and sixteen feet away from one of the sprinklers.
18. Descriptions of commercialized embodiments of the Coanda-effect sprinkler in the form of Technical Data Sheets are attached as Exhibit F.
19. The commercialized embodiments of the Coanda-effect sprinkler are stated in the Technical Data Sheets to be at a K-factor 5.5, 5.6, 8.0 or 8.1.
20. In these commercialized embodiments of the Coanda-effect sprinkler, the minimum flow rates over various protection areas and at various minimum pressure, are stated, respectively, in Datasheets for Model F950/Q-48 and 1F950/Q-48- ½-inch Orifice sprinkler with a K-factor of 5.55; Model FR-1, Fast Response Solder Type ½-inch Orifice sprinkler with a K-factor of 5.6; Model

F960/Q-48 Designer, ½-Inch Orifice Sprinkler with a K-factor of 5.5; Model F950/Q-48 and 1F950/Q-48- 17/32-inch Orifice sprinkler with a K-factor of 8.0; and Universal Model A, QR-EC and EC, 3 & 5 mm Bulb Type, 17/32-inch Orifice sprinkler with a K-factor of 8.1; and Model FR-1, Fast Response Solder Type 17/32-inch Orifice sprinkler with a K-factor of 8.1.

21. Based on the flow rate over defined protection areas given in these Datasheets, each of the commercialized embodiments provides a water density in GPM per square feet of less than 0.15 GPM per square feet.
22. In fact, none of the commercialized embodiments of the Coanda-effect sprinkler was able to provide, as claimed in the instant application, an average density of about 0.15 gallons per minute per square feet over a collection area located at either one of a distance of about thirty-six inches and a distance of approximately six feet and 7.5 inches below each Coanda-effect sprinkler when the Coanda-effect sprinkler is paired with an identical Coanda-effect sprinkler mounted approximately sixteen feet apart on a generally planar wall surface with a collection area of approximately sixteen feet between the sprinklers and sixteen feet away from one of the sprinklers.
23. I have reviewed the Tramm Patent. A copy of the Tramm patent is attached as Exhibit G.
24. The Tramm Patent was assigned to Grinnell Corporation at the time the instant application was filed. The Fischer Patent was also assigned to Grinnell Corporation at the time the instant application was filed. The instant application is assigned to Central Sprinkler Corporation.

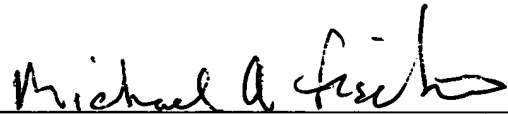
25. As of Jan. 1, 2001, Tyco Fire Products L.P. acquired the right to carry on the business of Grinnell Corporation.
26. As of Jan. 1, 2001, Tyco Fire Products L.P. acquired the right to carry on the business of Central Sprinkler Corporation.
27. I was employed by Grinnell Corporation at the time the application for the Tramm Patent and the instant application were filed. I am now employed by Tyco Fire Products LP. One of the inventor of the instant application, James E. Golinveaux, is also employed by Tyco Fire Products LP and is a director of Tyco Fire Products Research and Development Center.
28. I have not discussed this declaration with Mr. Golinveaux.
29. The Tramm Patent shows and describes a deflector with a flow confining portion serving as a canopy, where a free end of the canopy is oriented in the opposite direction of the canopy of the Coanda-effect sprinkler. In particular, Tramm shows a deflector 22 in Figures 1, 2, and 10 with a flow-confining portion 48 that has planar segments 49, 50, and 51 serving as portions of the rearward oriented canopy for the sprinkler of Tramm (hereafter "the rearward-canopied sprinkler"). The flow-confining portion 48 is oriented back toward the outlet of the rearward-canopied sprinkler to limit the upward flow of a fluid stream issuing from the outlet of the rearward-canopied sprinkler. The planar segments 49-51 provide a rearward shape of the spray pattern of the sprinkler 10. *See* the Tramm Patent at col. 8:1-12. By providing this rearward-oriented deflector configuration, Tramm asserts that he was able to meet regulatory requirements for sprinkler strength in the United Kingdom. *See* the Tramm Patent at col. 8:16-24.

30. The Tramm Patent states that the K-factor of the rearward-canopied sprinkler could be at least 3.5; at least 5.0; at least 7.0; at least 10.5; or at least 13.0.
31. Notwithstanding the preceding statement by the Tramm Patent, commercialized embodiments of the rearward-canopied sidewall sprinkler are stated as having a K-factor of 5.6. The commercialized embodiments of Tramm's rearward-canopied sprinkler are identified as Universal Model A/Q-71 Quick Response, 3 mm Bulb Type, 1/2-inch Orifice Sprinkler and Universal Model A/Q-71 Standard Response, 5 mm Bulb Type, 1/2-inch Orifice Sprinkler, which are described in Grinnell Datasheet TD534 and TD535M, attached here as Exhibit H.
32. The Tramm Patent fails to show or describe the water density provided by the rearward-canopied sprinkler.
33. As a person with over twenty-five years of experience in the fire protection art, including sidewall fire sprinkler research, design, and testing, I would not know, based on the teachings in the Tramm Patent, how to modify the Coanda-effect sprinkler so as to obtain the sidewall sprinkler as claimed in the instant application. Thus, at least at the time the instant application was filed, Tramm did not suggest to me, the inventor of the Fischer Patent, how the Coanda-effect sidewall sprinkler could be modified by Tramm's rearward-canopied sprinkler to provide for a sidewall sprinkler, as claimed in the instant application, that would provide an average density of about 0.15 gallons per minute per square feet over a collection area located at either one of a distance of about thirty-six inches and a distance of approximately six feet and 7.5 inches below the sprinkler when such sprinkler is paired with an identical sprinkler mounted approximately sixteen feet

apart on a generally planar wall surface with a collection area of approximately sixteen feet between the sprinklers and sixteen feet away from one of the sprinklers.

34. I hereby declare that all statements made herein of my personal knowledge are true and that such statements were made with the knowledge that willful false statements are punishable by fine or imprisonment, and both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the instant patent application or any patent issued therefrom.

Date: _____

10/04/04

Michael A. Fischer